Exercise 13.Using the IBM Script Portlet

Estimated time

01:00

What this exercise is about

In this exercise, you install the Script Portlet and work with some of its features such as the Script Portlet Editor and sp command-line tools. You create a script portlet application with the editor and place it on a page. You also learn how to import existing applications into the Script Portlet Editor and push applications to the server.

What you should be able to do

At the end of this exercise, you should be able to:

- Install the Script Portlet
- Create a script portlet application with the Script Portlet Editor
- Create an empty page and place the application on the page
- Import an existing application into the Script Portlet Editor
- Use the sp push command to push an application to the server

Introduction

IBM Script Portlet for WebSphere Portal is a tool that enables a script developer to quickly develop portlets for WebSphere Portal without the need to know anything about Java, portlets, or the JSR 286 portlet specification. This tool allows users to develop portlets by using just their knowledge of scripting languages like JavaScript, CSS, and HTML.

Two approaches for building applications with Script Portlet are available. You can build an application in the browser with the Script Portlet Editor. You can also build an application on your workstation with your preferred tools, then use the sp push command to move the application to the server. Both of these approaches are explored in this exercise.

Requirements

You can complete this exercise after completing **Exercise 7: Custom authoring features**. The IBM Script Portlet 1.3 and the Script Portlet Samples are also required. Both are downloaded to the course image.

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Section 1. Install and deploy the Script Portlet

Important

IBM Script Portlet 1.3

This exercise uses the 1.3 version of Script Portlet. Future releases of the Script Portlet might include new features and a different look and feel. Therefore, if this exercise is attempted with a future release of Script Portlet, some screen captures might not match.

The Script Portlet 1.3 files are already downloaded to the course image. In this section, you run the ConfigEngine tasks to install and deploy the `scriptportlet-app-1.3.0.paa`.

__ 1. Start WebSphere_Portal server if it is not already started.

__ a. From a command window, go to `C:\IBM\WebSphere\wp_profile\bin`

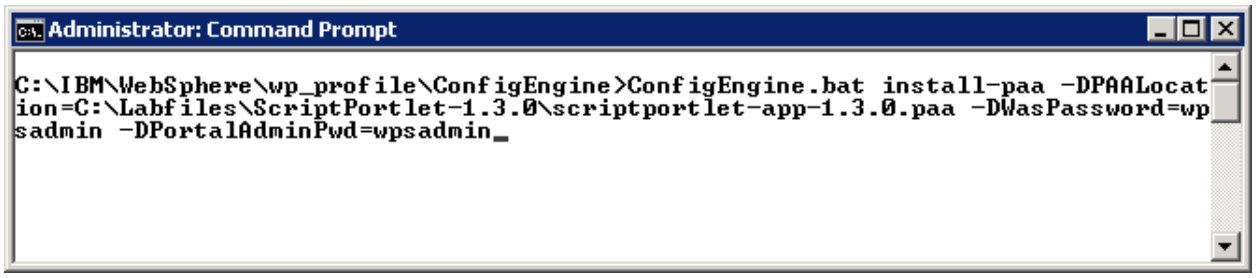
__ b. Enter the command: `startServer WebSphere_Portal`

__ 2. Use a ConfigEngine task to install the IBM Script Portlet on your portal server.

__ a. From a command window, go to `C:\IBM\WebSphere\wp_profile\ConfigEngine`

__ b. Type the following ConfigEngine command all on one line.

```
ConfigEngine.bat install-paa
-DPAALocation=C:\Labfiles\ScriptPortlet-1.3.0\scriptportlet-app-1.3.0.paa
-DWasPassword=wpsadmin -DPortalAdminPwd=wpsadmin
```



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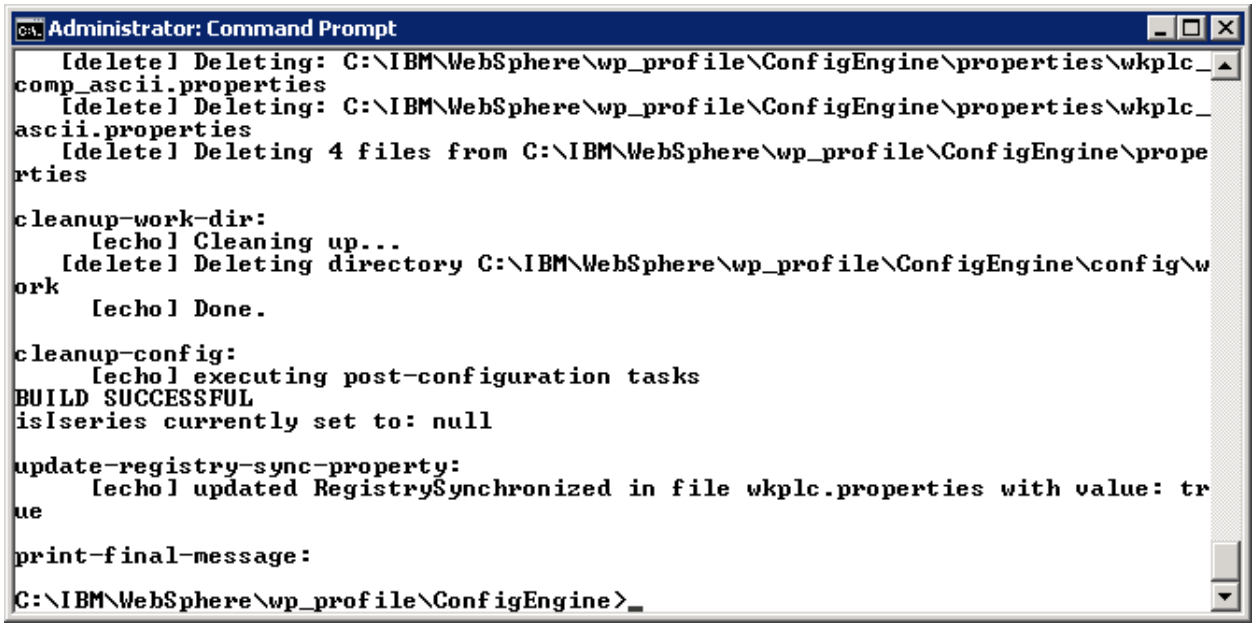
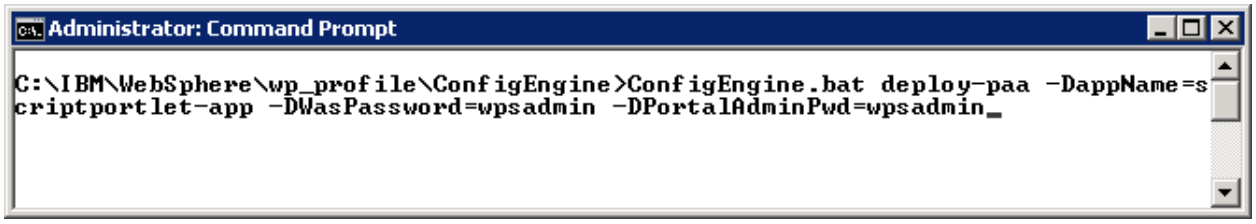
__ c. Wait until you see the task complete with a BUILD SUCCESSFUL message.



__ d. Type the following ConfigEngine command all on one line.

```
ConfigEngine.bat deploy-paa -DappName=scriptportlet-app
-DWasPassword=wpsadmin -DPortalAdminPwd=wpsadmin
```



__ e. This task takes longer to finish than the installation task. Wait a few minutes until you see the task complete with a BUILD SUCCESSFUL message.

__ 3. Restart the WebSphere_Portal server.

__ a. From a command window, go to `C:\IBM\WebSphere\wp_profile\bin`

__ b. Enter the command: `stopServer WebSphere_Portal -user wpsadmin -password wpsadmin`

__ c. Wait for the server to stop completely.

__ d. Enter the command: `startServer WebSphere_Portal`

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Information

Developer mode

You might use the developer mode to improve start performance. When developer mode is enabled, a list of applications to exclude from auto-starting is generated. The Script Portlet must be removed from this list. You must edit the `wp.base_TargetMapExclList.properties` file by adding the line `scriptportlet`. For more details, read the documentation in the WebSphere Portal 8.5 IBM Knowledge Center article, **Installing the IBM Script Portlet**, **`http://www.ibm.com/support/knowledgecenter/SSHRKX_8.5.0/script/script-portlet/installing_on_the_base_portal.dita.`**

__ 4. Verify the installation of the Script Portlet.

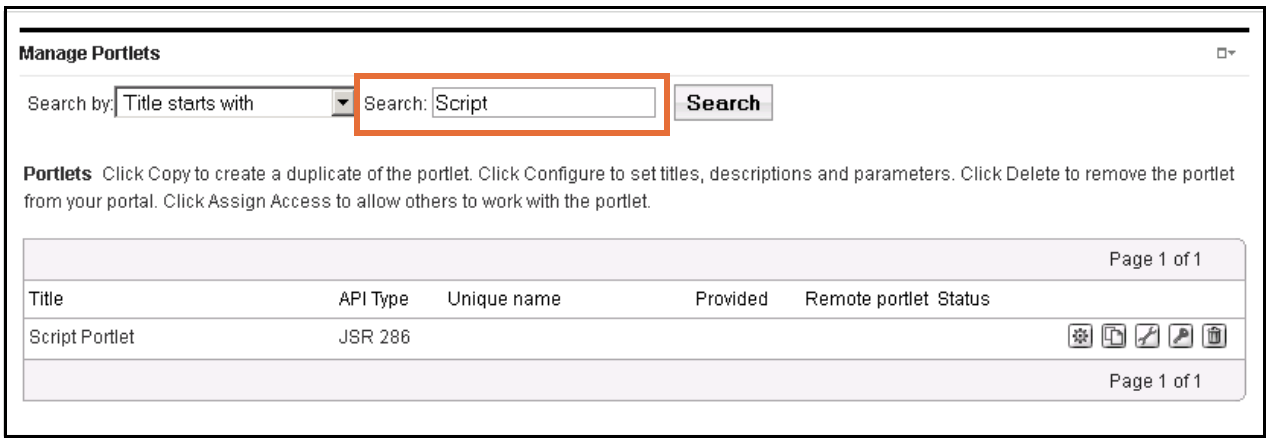
__ a. Open a Firefox browser and go to the following URL:

`http://localhost:10039/wps/portal`

__ b. Log in with user ID `wpsadmin` and password `wpsadmin`.

__ c. Click the **Open administration menu** icon, and click **Portlet Management > Portlets**.

__ d. In the Search field, type **Script**, and click **Search**. Verify that you see the **Script Portlet** in the Manage Portlets pane.



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Section 2. Create a script portlet application

In this section, you create an empty page on which to place the script portlet. You then create an application by providing HTML, CSS, and JavaScript code.

Important

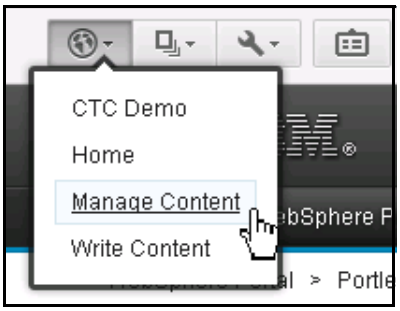
Internet access is required

The portlets in the remainder of the exercise require access to the Internet since the code snippets make calls to remote websites. As a result, if the Internet is not available in your lab environment, the portlets cannot render their output in the web browser.

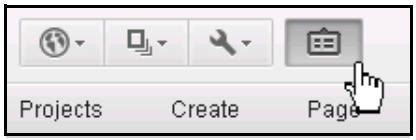
__ 1. If necessary, log in to the portal with user ID `wpsadmin` and password `wpsadmin`.

__ 2. Create an empty page for the Script Portlet.

__ a. Click the **Open site menu** icon and click **Manage Content**.



__ b. Click the **Open toolbar** icon if the toolbar is not already visible.



__ c. Turn on **Edit Mode**.

__ d. Click **Create** in the toolbar, and then click **Page**.

__ e. Select the **Basic** template, and add the properties for the new page.

- Page title: `Developing Script Portlets`
- Page insertion point: `Child of current page`

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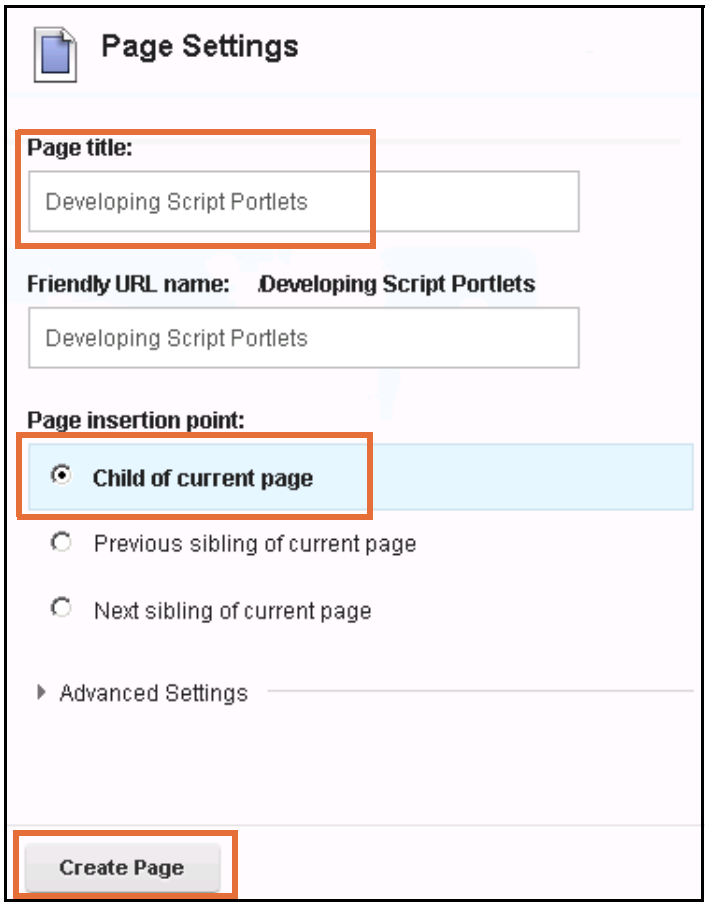
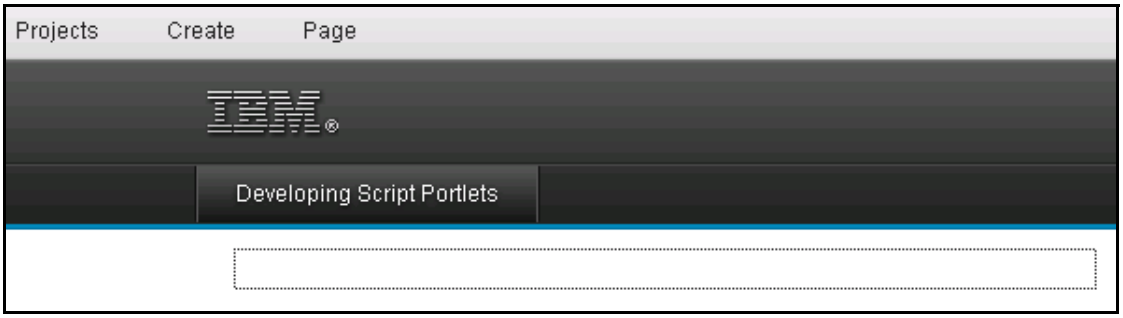


__ f. Click **Create Page**.

__ g. Close the page creation pane.

__ h. You now see the new page with two empty columns.



__ 3. Add the Script Portlet to the page.

__ a. Click **Create** in the toolbar, then click **Application**.

__ b. Type `Script Portlet` in the search field, and then click **Submit search** icon.

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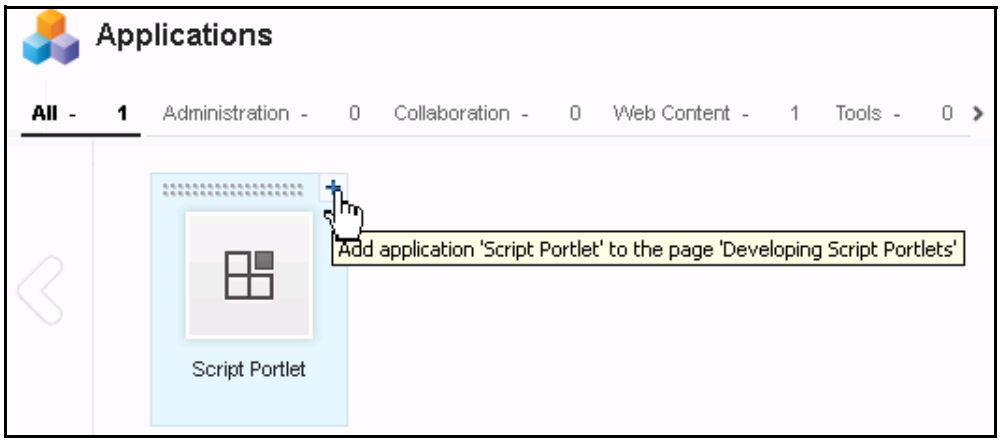
__ c. You now see only the Script Portlet application. Click the **+** in the upper right corner of the application icon.

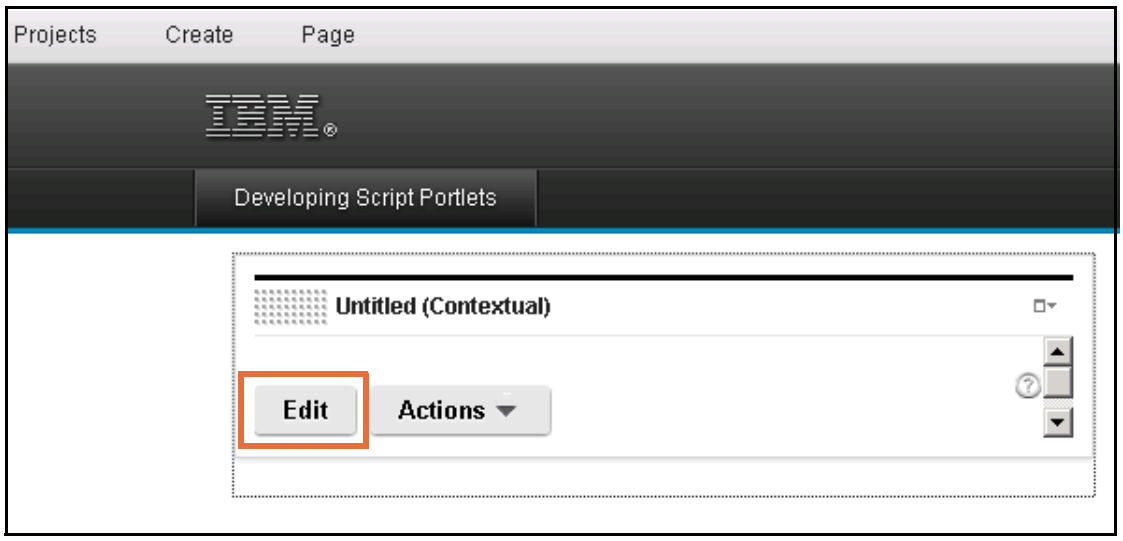


__ d. Wait until you see the message: “The application 'Script Portlet' has successfully been added to the page 'Developing Script Portlets'”. Close the **Applications** pane.

__ e. You now see the empty Script Portlet on the Developing Script Portlets page.

__ 4. Use the Script Portlet Editor to create an application. The application that you are going to create uses the OpenStreetMap website (www.openstreetmap.org) to render a map of a location whose latitude and longitude you provide. The data that is provided by OpenStreetMap is available under the Open Database License.

__ a. Click **Edit** on the portlet to start the Script Portlet Editor.



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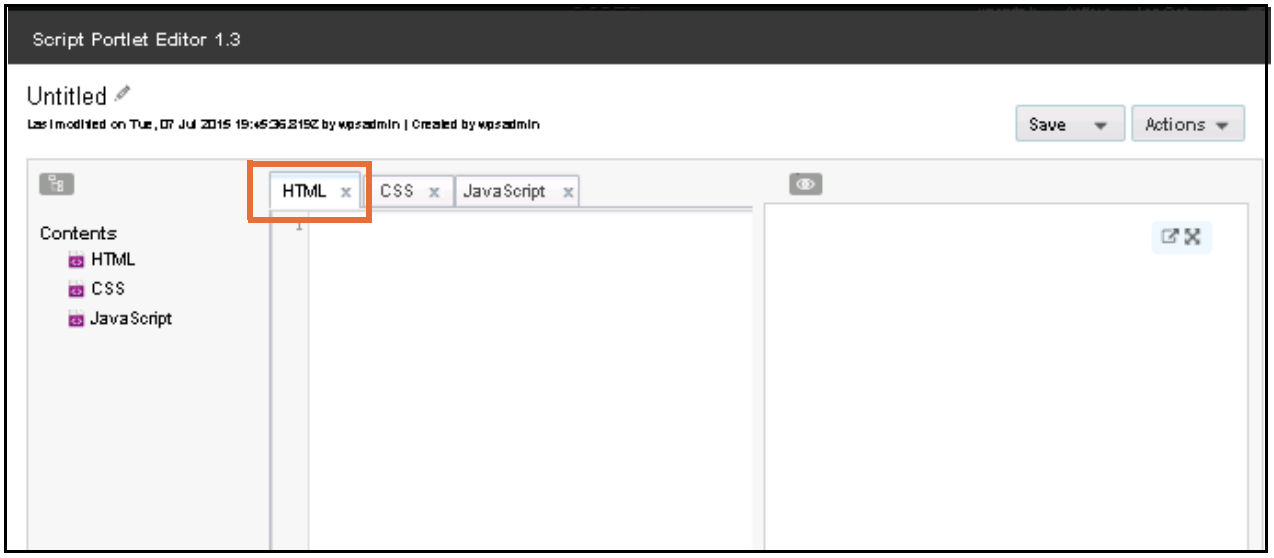
__ b. Click the **HTML** tab.



__ c. Type in the following code, or copy the code from `C:/Labfiles/scripts/HTML`

```
<!DOCTYPE html>
<html>
<head>
<title>Site Maps</title>
<h1 id=block1 > Company Site Maps </h1>
 <div>
      <h2 id=block2 name="page_header_text"
class="blockHeading">Austin, TX</h2>
      <input id="button" type="button" onclick="showAustin()"
value="Click for map">
   </div>
  <div>
      <h2 id=block3 name="page_header_text"
class="blockHeading">Markham, ON</h2>
      <input id="button" type="button" onclick="showMarkham()"
value="Click for map">
   </div>
</head>
</html>
```

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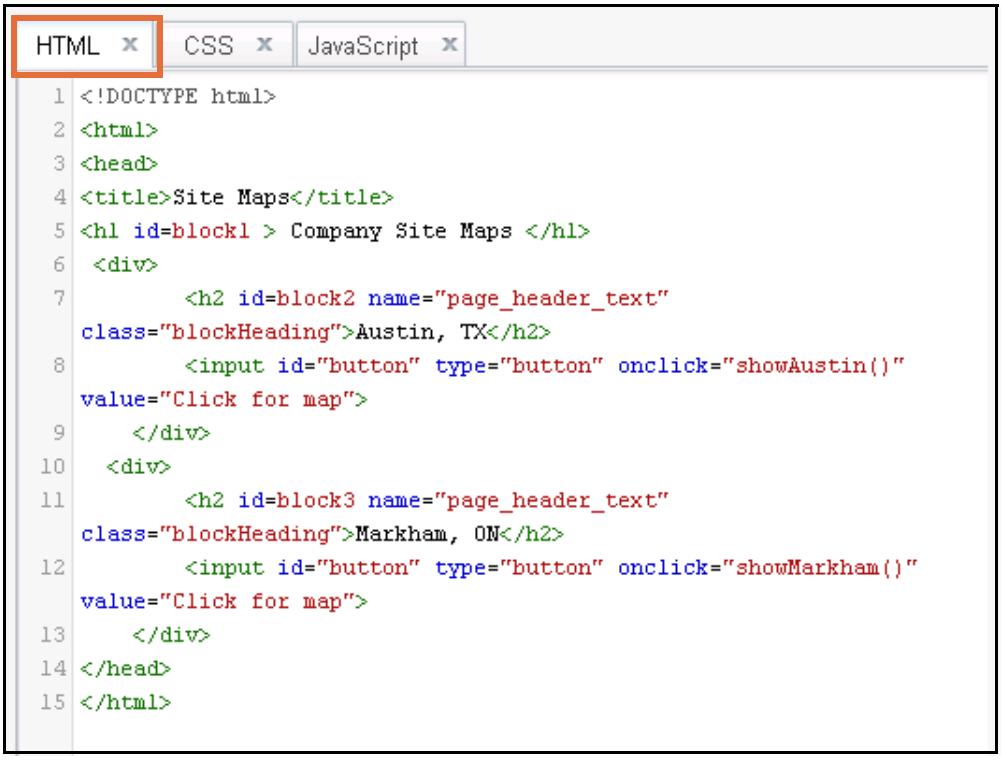
Note

HTML code

The code displays a heading for the portlet, and then defines two buttons. One button calls the `showAustin()` function when it is clicked, the other calls the `showMarkham()` function. Both of these functions are defined in the subsequent JavaScript code.



__ d. Click **Save** in the editor to preview. You see only the heading.

__ e. Click the **CSS** tab, and type in the following code, or copy the code from `C:/Labfiles/scripts/CSS`.

```
#block1 { color: blue;
  font-family: tahoma;
 }
#block2 { color: brown;
  background-color: khaki;
  border: 1px solid black;
  font-family: tahoma;
 }
#block3 { color: gold;
  background-color: green;
```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```
  font-family: tahoma;
  border: 1px solid black;
 }
#button {
  font-weight: bold;
  color: blue;
}
```

Note

CSS code

These CSS declarations define the style (font, color, and border) of the headings and buttons that are referenced in the HTML code.

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__ f. Click the **JavaScript** tab, and type in the following code, or copy the code from `C:/Labfiles/scripts/JavaScript`.

```
function showAustin() {
  location.href=
'https://www.openstreetmap.org/#map=15/30.40190/-97.71850';
}
function showMarkham() {
  location.href=
'https://www.openstreetmap.org/#map=15/43.84879/-79.33829';
}
```

Note

JavaScript code

The JavaScript code defines two functions that are called `showAustin()` and `showMarkham()`.These functions are used to take the user to a new page by using the `location` object. The hypertext reference `href` is assigned the URL for `www.openstreetmap.org` which also contains the hardcoded latitude and longitude for Austin and Markham. This approach transfers the user to the new page and keeps the original page in the history list of the browser. In this way, the user can return by clicking the browser Back button.

__ g. Click **Save** to preview in the preview pane.

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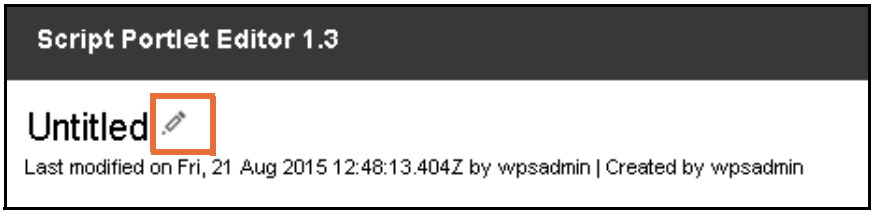
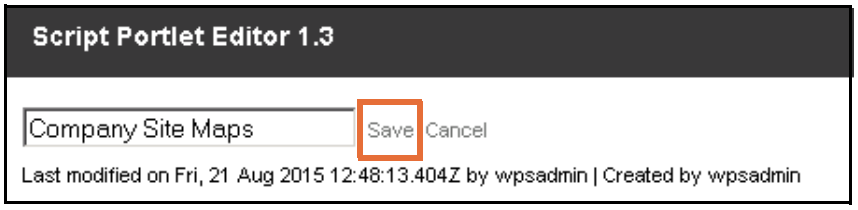
__ h. You now see the Company Site Maps portlet in the preview pane.

__ i. Change the title of this portlet by clicking the pencil icon.



__ j. Type `Company Site Maps` for the title.



__ k. Click **Save**.

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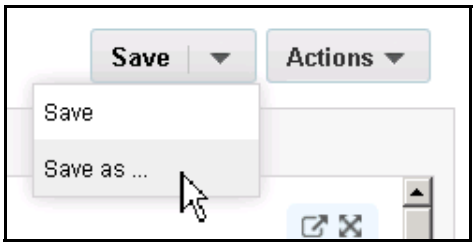
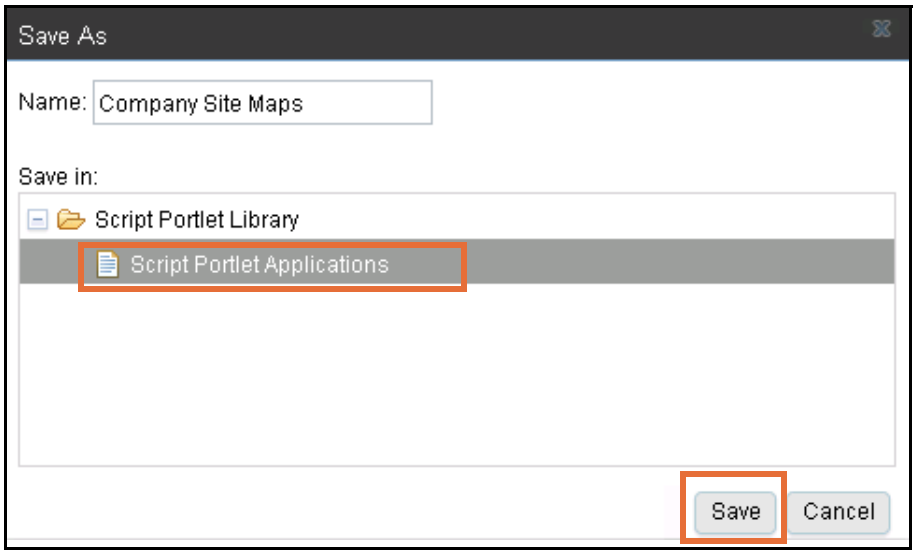
__ 5. Save the application into a IBM Web Content Manager library.

__ a. From the Script Portlet Editor, click **Save as**.



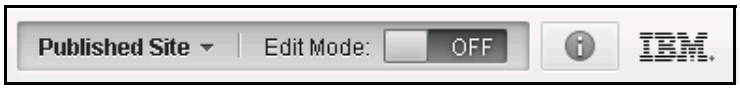
__ b. In the Save As dialog box, expand **Script Portlet Library**, click **Script Portlet Applications**, and then click **Save**. This action stores the application in the IBM Web Content Manager Content library.



__ c. Close the Script Portlet Editor.

__ 6. Verify that the Company Site Maps application now shows up on the **Developing Script Portlets** page.

__ 7. Turn off **Edit Mode** and verify that the application is running in view mode.



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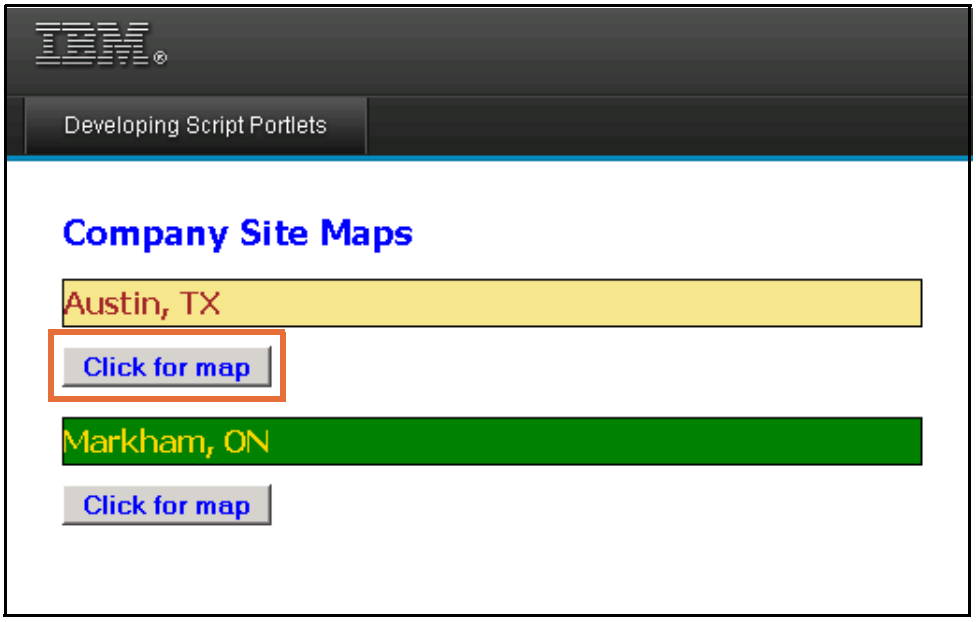
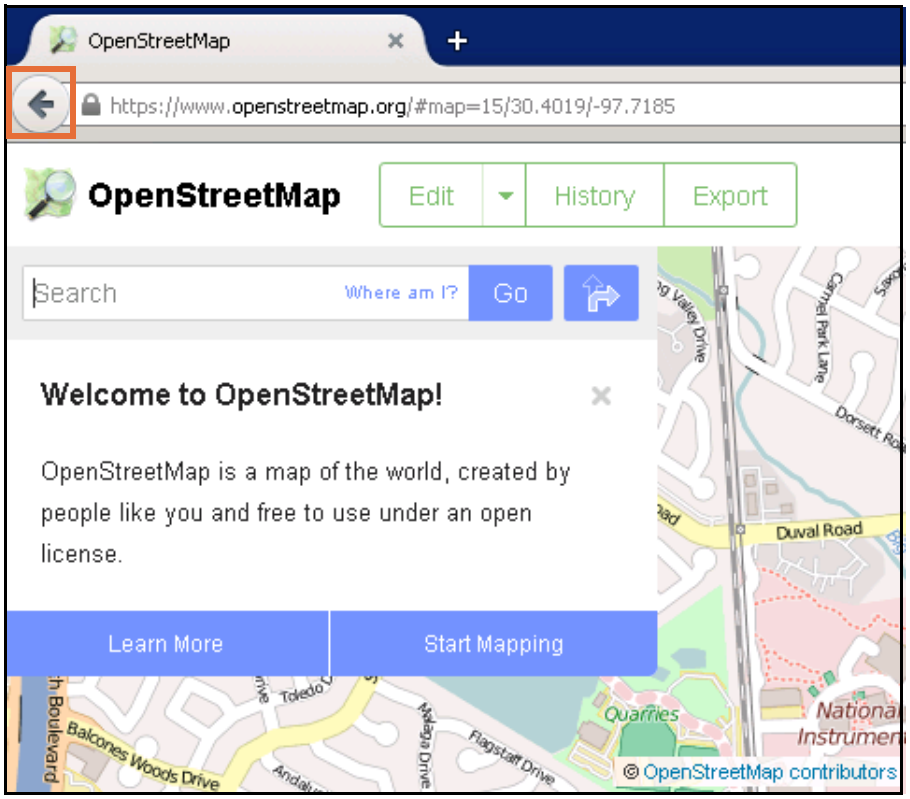
__ 8. Test the application by clicking the buttons.

__ a. Under Austin, TX, click **Click for map**.



__ b. Verify that you go the OpenStreetMap webpage and a map of the IBM Austin site is displayed.



__ c. Click the browser Back button to return.

__ d. Click **Click for map** under Markham, ON, and verify that a map of the IBM Canada Toronto Lab site is displayed.

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__ e. Click the browser Back button to return.

Troubleshooting

If the browser hangs when trying to load the OpenStreetMaps page, click the browser Back button and log out. Log in again as `wpsadmin` and click **Click for map** again.

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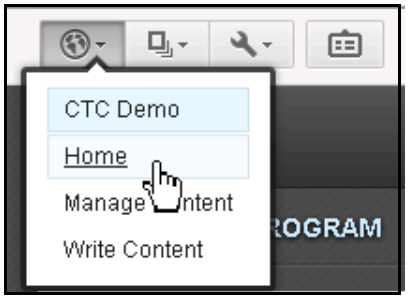
Section 3. Place the Company Site Maps application on a new page

In this section, you add a page to the Home site, and place the Company Site Maps application on that page.

__ 1. Go to the **Home** site and create a page that is named **Maps**

__ a. Click the **Open site menu** icon and click **Home**.



__ b. Click the **Open toolbar** icon if the toolbar is not already visible.

__ c. Turn on **Edit Mode**.

__ d. Click the **Our Company** tab to make it the current page.

__ e. Click **Create** in the toolbar, then click **Page**.

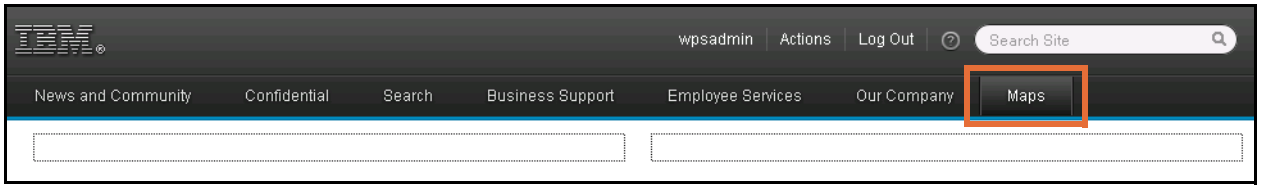
__ f. Select the **Basic** template, and add the properties for the new page.

- Page title: `Maps`
- Page insertion point: `Next sibling of current page`

__ g. Click **Create Page**.

__ h. Close the page creation pane.

__ 2. Click the **Maps** tab, and then open the toolbar and turn on the Edit mode.



__ 3. Add the Company Site Maps application to the Maps page.

__ a. Because, the Company Site Maps application was saved from the Script Portlet Editor by using the “Save as” option, the application is available in the Content folder under Script Portlet Applications. Click **Create** on the toolbar, and then click **Content**.

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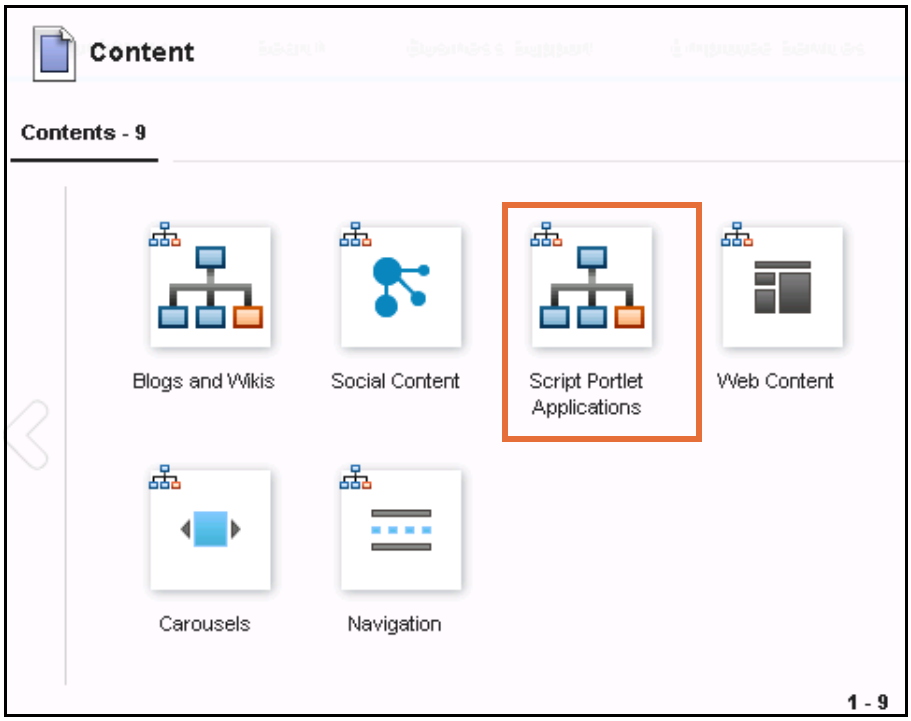
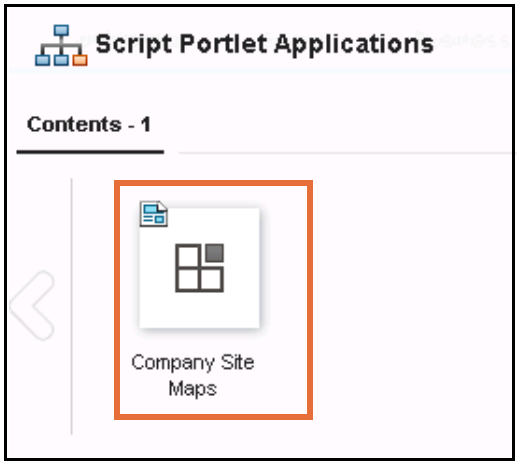
__ b. Click **Script Portlet Applications**.



__ c. You now see the Company Site Maps application. Drag the application to the **Maps** page and drop it into the first column.



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__ d. Turn off the Edit mode, and you now see the Company Site Maps application in a running state on the Maps page in view mode.

__ e. Test the application as you did before by clicking **Click for map** under each location. Remember to click the browser Back button to return to the Maps page.

Troubleshooting

If the browser hangs when trying to load the OpenStreetMaps page, click the browser Back button and log out. Log in again as `wpsadmin` and click **Click for map** again.

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Section 4. Import an application into the Script Portlet Editor

In this section, you use the Import feature of the Script Portlet to bring an existing application compressed file into the Script Portlet Editor.

__ 1. Go to the Developing Script Portlets page and add another instance of the Script Portlet.

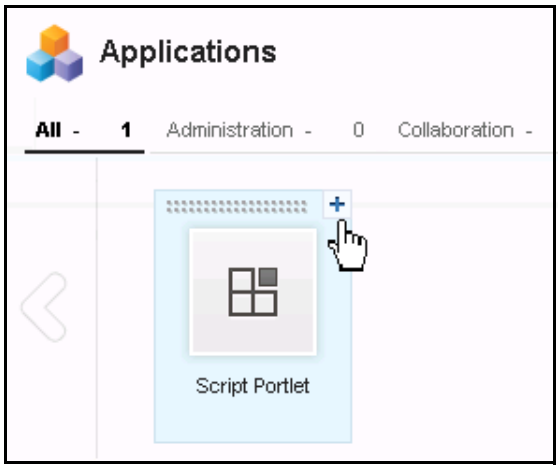
__ a. Click the **Open site menu** icon and click **Manage Content**.

__ b. Click the **Developing Script Portlets** tab.

__ c. Click **Create** in the toolbar, then click **Applications**.

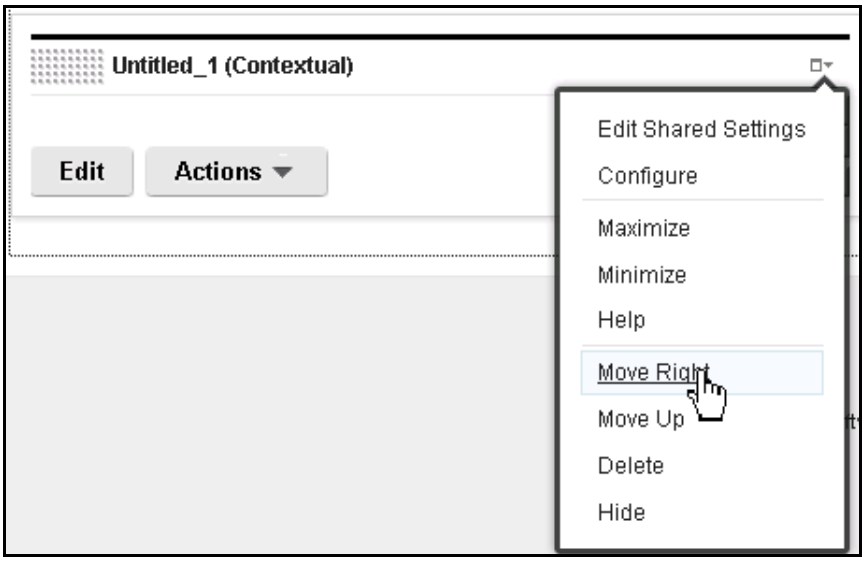
__ d. Search for `Script Portlet` if necessary.

__ e. Click **+** in the upper right corner of the Script Portlet application to add it to the page.



__ f. Wait until you see the message: “The application 'Script Portlet' has successfully been added to the page 'Developing Script Portlets'”. Close the **Applications** pane.

__ g. By default, the Script Portlet is added to the first column underneath the Company Site Maps application. Click the portlet menu icon for the Script Portlet and click **Move Right** to move it into the second column.



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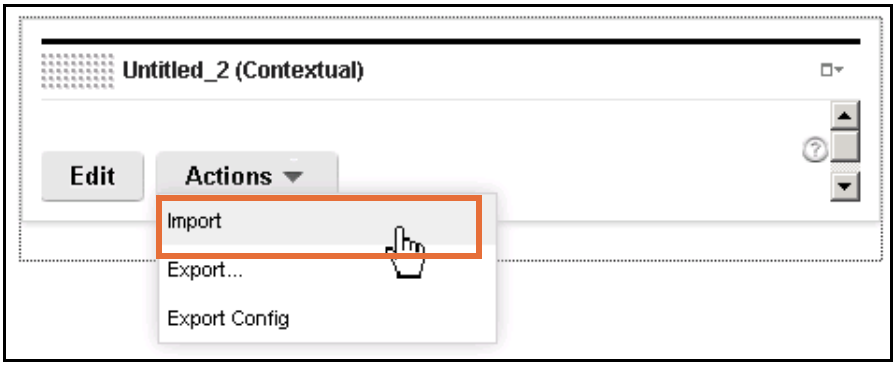
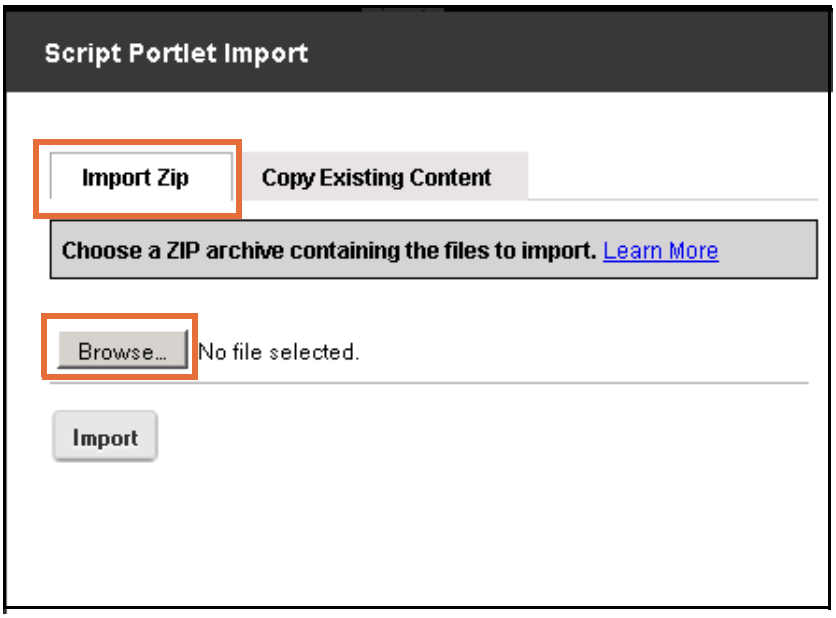
__ 2. Import an existing Script Portlet sample application. You are going to import an application that is named Angular Contacts. This application is built with the AngularJS framework and the Bootstrap CSS library. It is an example of a "single page application" where the AngularJS framework dynamically loads the different views within a single `index.html` page.

__ a. Expand the **Actions** menu on the empty Script Portlet and click **Import**.



__ b. In the Script Portlet Import dialog box, click the **Import Zip** tab, and then click **Browse**.



__ c. Browse to `C:\Labfiles\samples`

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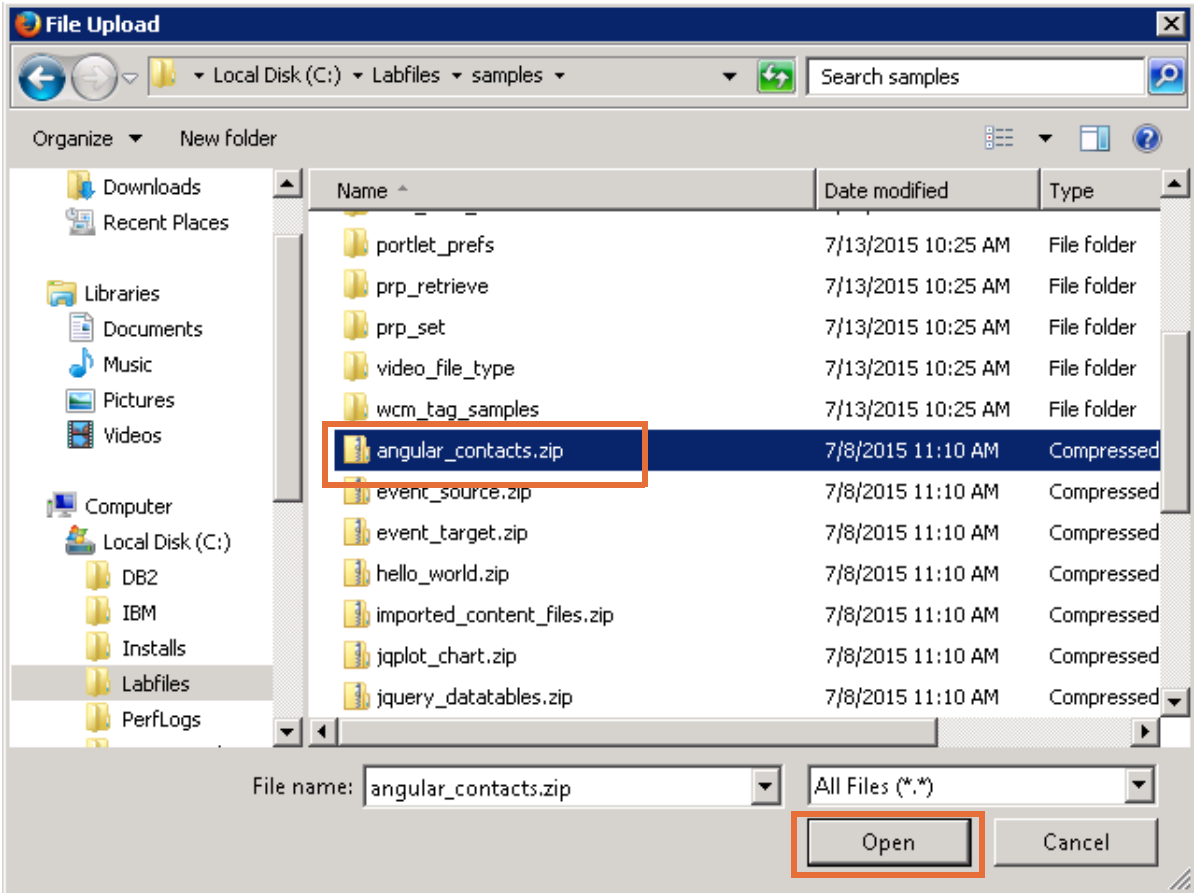
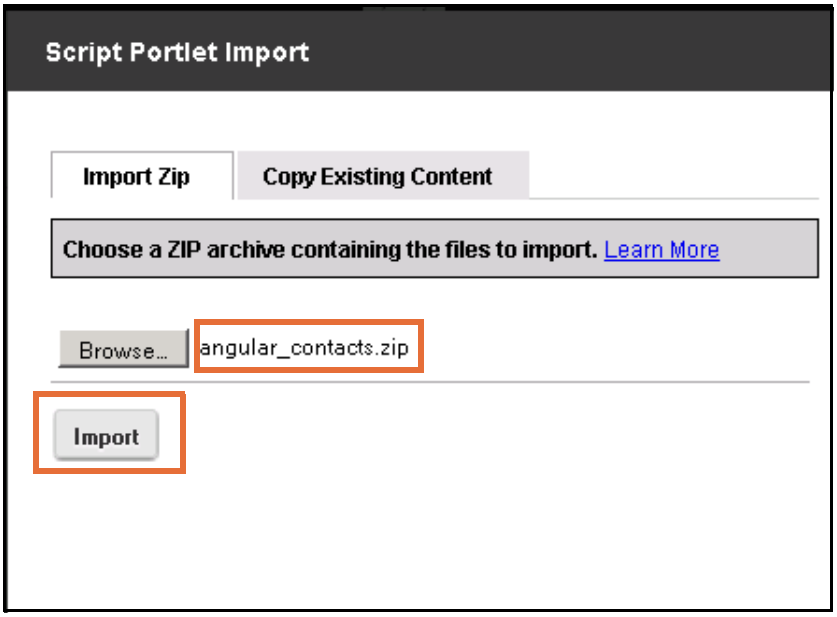
__ d. Click the **angular_contacts** compressed file (`angular_contacts.zip`), and click **Open**.



__ e. You now see the `angular_contacts.zip` file, click **Import**.



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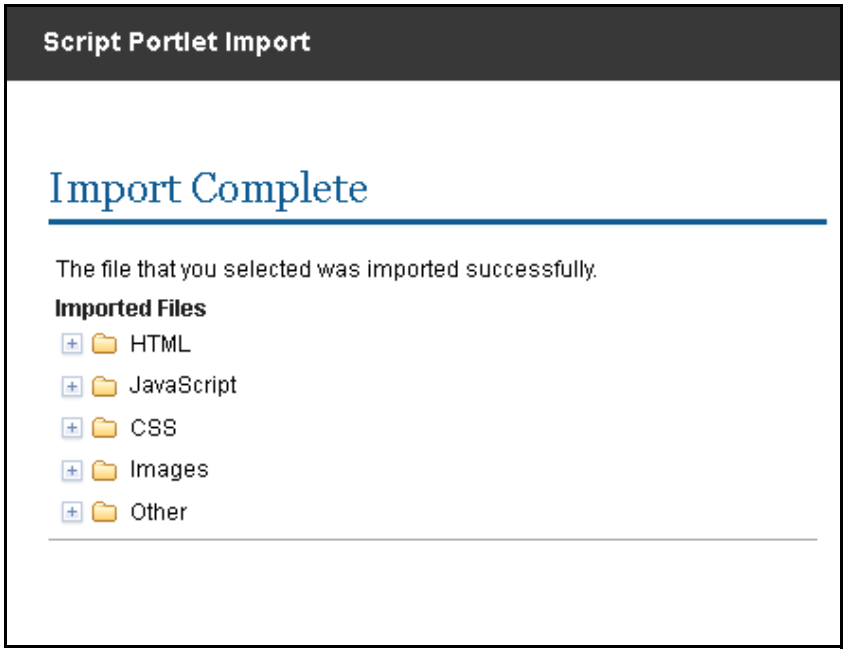
__ f. Wait for the import to complete.



__ g. You can explore which files were imported by expanding the tree. When you are done exploring close the **Script Portlet Import** pane.

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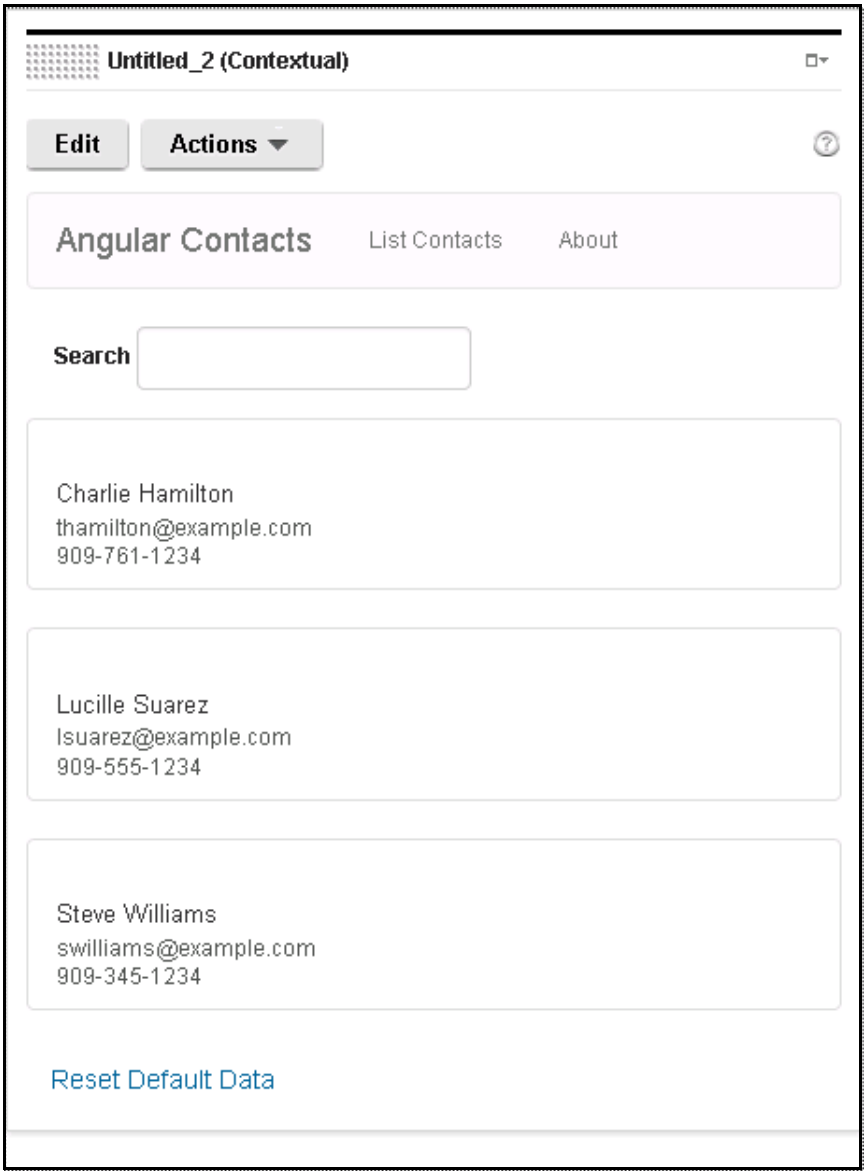
__ h. Wait a few moments for the page to render, and you now see the imported application on the page.



__ 3. Examine the application in the Script Portlet Editor.

__ a. Make sure that you are in Edit mode, and click **Edit** on the portlet.

__ b. The Script Portlet Editor comes up with all of the files in the application viewable and editable.

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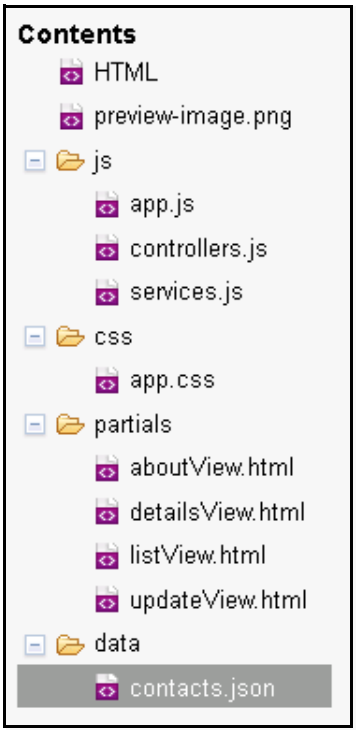
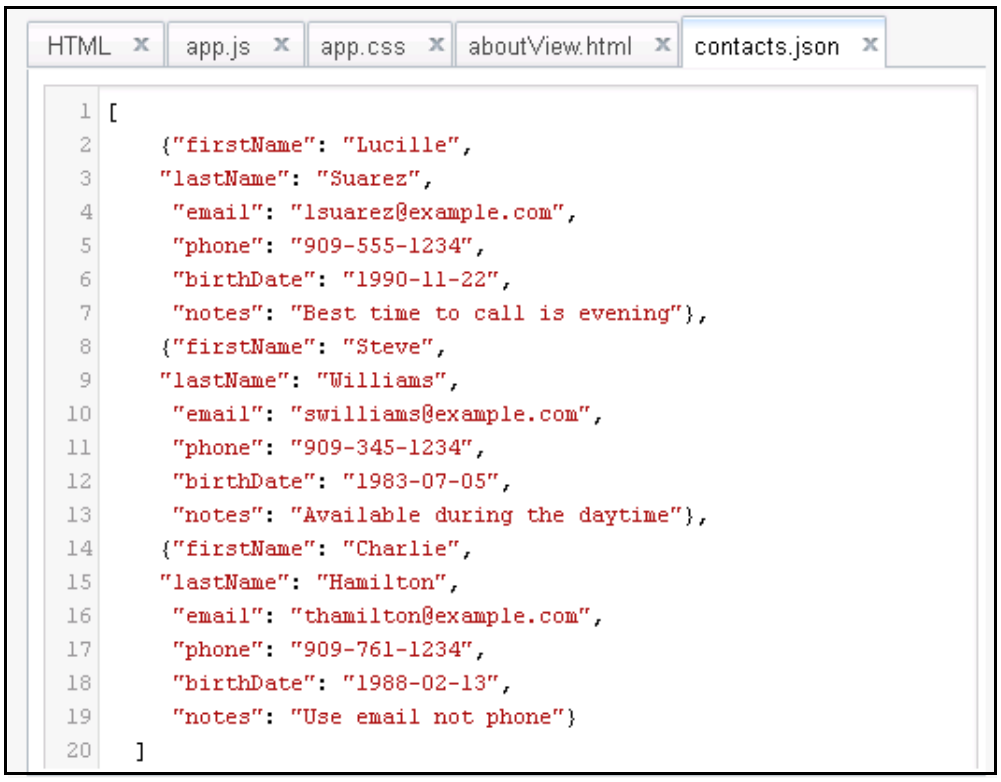
__ c. Expand the tree view on the left to examine which files are in the application.



__ d. Click any file name to see it displayed in the editor.



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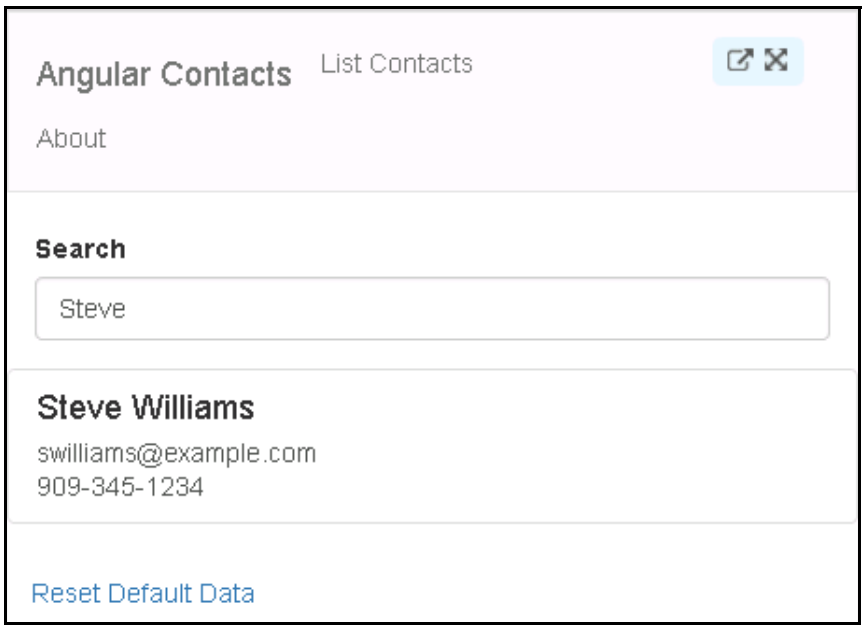
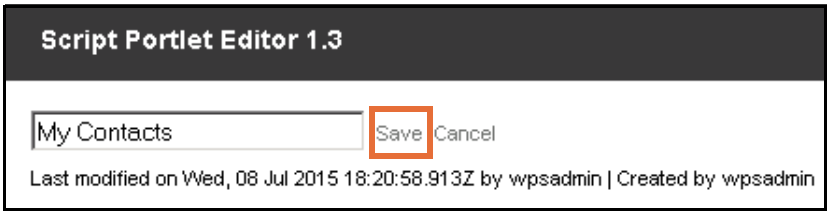
__ e. The preview window shows the functioning application. You can test the search feature by typing in a search string. Try typing `Steve`.



__ 4. Change the title of the application.

__ a. Change the title by clicking the pencil icon and typing `My Contacts`.



__ b. Click **Save**.

__ c. Close the Script Portlet Editor.

Information

Angular Contacts Sample

The Angular contacts application is a simple contact list application for viewing and updating a list of contacts.

Here are the key features that are illustrated in the sample:

- The four different views (list, details, update, and about) are separate HTML files that are loaded as partial pages by using the AngularJS $routeProvider service, which is configured in app.js.
- An AngularJS service named "contactsLocalStorageService" is used to retrieve and update a list of contacts. Data initially comes from a JSON file but after that is stored by using HTML5 local storage. It can be reset to the file data by clicking "Reset Default Data."

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- The AngularJS $http service is used to load the default JSON data file, contacts.json.
- Three simple AngularJS controllers are used for: the list view, the details view, and the update view.
- Three local JS files are used, and when the files are running in Script Portlet they are combined into a single resource by WebSphere Portal's resource aggregation feature (available in version 8.5, CF03 or later). The following `data-scriptportlet-combine-urls` attribute in the index.html file causes Script Portlet to enable the combining of the three local application JavaScript files.

  ```
  <html data-scriptportlet-combine-urls="true">
  ```

- The Bootstrap library is used for styling of the application UI.

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Section 5. Install and use the sp command-line tools

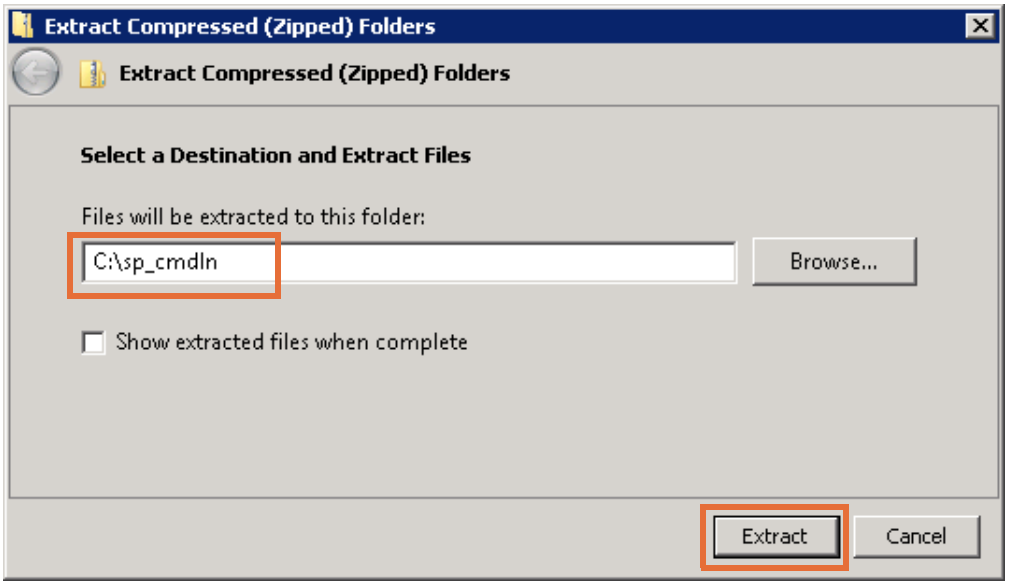
In this section, you learn how to install and configure sp command-line tools. You then use the sp push command to bring an existing application folder into the IBM Web Content Manager library.

__ 1. Install the sp command-line tools.

__ a. From Windows Explorer, go to `C:\Labfiles\ScriptPortlet-1.3.0`.

__ b. Right-click the compressed file `sp_cmdln.zip` and click **Extract All**.

__ c. Change the destination folder to `C:\sp_cmdln`, and click **Extract**.



__ 2. Set the JAVA_HOME variable.

__ a. On the desktop of your lab image, right-click the Computer icon, and click **Properties**.

__ b. In the Control Panel, click **Advanced system settings**.

__ c. Select the **Advanced** tab, and click **Environment Variables**.

__ d. Under System variables, click **New**.

__ e. Type **JAVA_HOME** for the Variable name.

__ f. Type for the Variable value, `C:\IBM\WebSphere\AppServer\java_1.7_64\jre`

__ g. Click **OK**, click **OK**, then click **OK** again.

__ h. Close the Control Panel.

__ 3. Set the properties for the server in `sp-config.json`

__ a. From Windows Explorer, go to the directory: `C:\sp_cmdln`

__ b. Use Notepad++ to open the `sp-config.json` file.

__ c. Remove the comment symbol **//** and update the following properties.

- "scriptPortletServer": `"http://wcm:10039",`
- "portalUser": `"wpsadmin",`

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- "portalPassword": "wpsadmin",

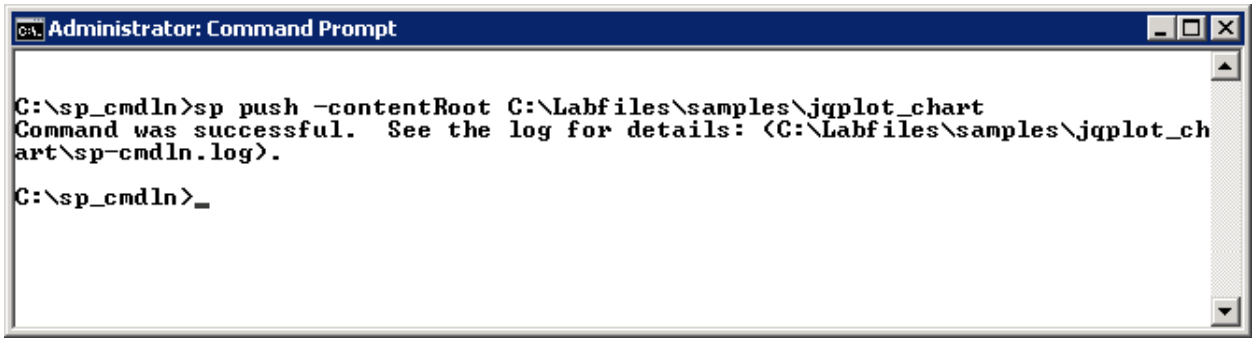
__ d. Save the file, and close Notepad++.

__ 4. Use sp push to create a script portlet application

__ a. Open a new command window, go to `C:\sp_cmdln`.

__ b. Enter the following command:

```
sp push -contentRoot C:\Labfiles\samples\jqplot_chart
```



__ c. The command was successful. However, if the command fails, it is helpful to view the `sp_cmdln.log` file.

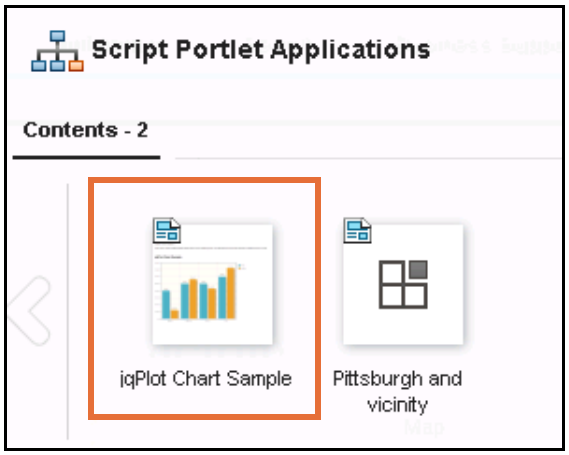
__ 5. Verify that the new application is now available in the Content tab.

__ a. If necessary, log in to the portal with user ID **wpsadmin** and password **wpsadmin.**

__ b. Click the **Open toolbar** icon if the toolbar is not already visible.

__ c. Click **Create** in the toolbar.

__ d. Click **Content**, and then click **Script Portlet Applications**.



__ e. You should see the jqPlot Chart application that you pushed to the server.

__ 6. **Optional:** Place the jqPlot Chart application on a page, and use the Script Portlet Editor to explore its features.

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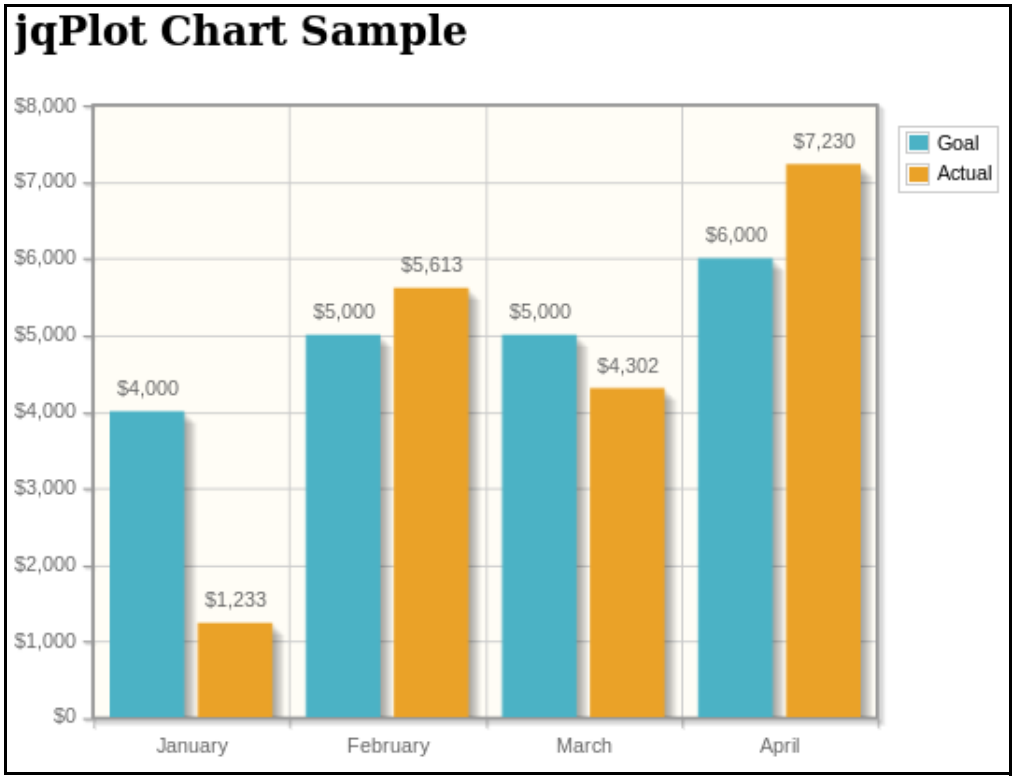
Information

jqPlot Chart

This example shows a chart that is created with the jQPlot open source charting library. The data for the chart in this example is defined right in the JS code. In a real world implementation, the data would come from a REST service.



End of exercise

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Exercise review and wrap-up

In this exercise, you installed the Script Portlet and worked with some of its feature such as the Script Portlet Editor and sp command-line tools. You created a script portlet application with the editor and placed it on a page. You also learned how to import existing applications into the Script Portlet Editor and push applications to the server.

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